Earth Venture-2 DRAFT ANNOUNCEMENT OF OPPORTUNITY
DRAFT NASA-PROVIDED LAUNCH SERVICES PROGRAM INFORMATION SUMMARY
03/01/2011

NASA-provided Launch Services Ground Rules/Policy

NASA-provided Launch Services may be proposed for access to space under the Earth Venture-2 Announcement of Opportunity (AO). These NASA-provided Expendable Launch Vehicles (ELV) will be procured and managed by the NASA/Launch Services Program (LSP) using government contracts.

Under the provisions of the NASA contract, the launch service includes the launch vehicle (LV) and associated standard services, non-standard services (mission unique options), all engineering and analysis, and minimum performance standards. LSP also provides technical management of the launch service, technical insight into the LV production/test, coordinates and approves mission-specific integration activities, provides mission unique LV hardware/software development, provides payload-processing accommodations, and manages the launch campaign/countdown.

If a selected mission requires NASA-provided Launch Services, LSP via a NASA Launch Services (NLS) Contract will competitively select a launch service provider for the mission based on customer performance requirements and NASA Flight Planning Board (FPB) approval. Accordingly, assumption of a specific launch vehicle configuration as part of the AO proposal will not guarantee that the proposed LV configuration will be selected for award of a Launch Service Task Order, unless there is firm technical rationale for sole source. Any such rationale should be clearly identified and explained in the proposal.

All NASA-procured launch services are to be consistent with NASA Policy Directive (NPD) 8610.7, NASA Launch Services Risk Mitigation Policy. Expendable launch services acquired from NASA will be managed in accordance with NPD 8610.23, Technical Oversight of Expendable Launch Vehicle (ELV) Launch Services and NPD 8610.24, Launch Services Program (LSP) Pre-Launch Readiness Reviews. These NPD's can be accessed through the URLs:

http://nodis3.gsfc.nasa.gov/displayDir.cfm?Internal_ID=N_PD_8610_007D_&page_name=main
http://nodis3.gsfc.nasa.gov/displayDir.cfm?Internal_ID=N_PD_8610_023C_&page_name=main
http://nodis3.gsfc.nasa.gov/displayDir.cfm?Internal_ID=N_PD_8610_024B_&page_name=main

Launch Vehicle Information/Configuration/Performance

The LSP has developed an advanced planning documentation site for vehicles currently on contract to NASA. This web site contains information relevant to NASA-procured launch services. The information provided includes all NLS launch vehicle configurations that are available as well as payload fairing envelopes. This planning tool can be found at the following web address: elvperf.ksc.nasa.gov/. Access to this site requires a self-determined password, which is activated by the site administrator at the LSP. A user can request access/password activation by going to the site and following the directions provided on the log-in screen as well as providing the required information. Access to this web site can typically be activated within 24-48 hours during the week. For questions, use the point(s) of contact listed in this document.

Offerors should select the minimum launch service performance class that meets their requirements including adequate performance margins. Offerors should specifically state in the proposal the launch service performance range to meet their requirements for their mission.

Launch Service Costs

The launch service costs will be handled as specified in the draft AO. Provided in the launch service costs to be covered are :

- the launch vehicle, engineering, analysis, and minimum performance standards and services provided by the NLS contract in place at the time of LV selection;
- mission integration;
- launch site payload processing;
- range safety support;
- down range telemetry support (launch vehicle only);
- standard mission unique launch vehicle modifications/services –items typically necessary to customize the basic vehicle hardware to meet spacecraft driven requirements. Included are items like Pre-ATP studies such as coupled loads and/or trajectories analysis, a GN2 or pure air purge prior to T-0 and 10,000 Class integration environments.
- launch from sites other than the LV base launch complex.

The launch service costs as specified in the draft AO does not include funding for launch delays.

Attachment 1 describes performance ranges for the classes of launch vehicles to be offered. For mission specific information use the point(s) of contact listed in this document.

The non-standard services and options that proposal must account for in addtion to the launch service costs as specified in the draft AO are listed in that attachment. These are the only options proposals may include. These options include the addition of non-standard payload adapter and isolation system. For the isolation system, the bidder may elect to provide their own system in which case the isolation non-standard service will not apply. Performance and budget estimates are provided. Funding estimates appropriate for proposal development are stated in real-year dollars with the assumed launch date provided. For mission specific information use the point(s) of contact listed in this document.

Evaluation Criteria

Attachment 2 shows a preliminary Evaluation checklist to be used as a guide for the evaluators during the proposal evaluation phase. This checklist should give offerors an indication of the types of information that are expected to be contained in the proposals.

NASA Launch Services Program Point of Contact for Additional Information

Additional information including performance quotes, mission integration inquiries and costs may be obtained from the point of contact below. Other questions on the draft AO must be directed as indicated in the draft AO.

Garrett L. Skrobot
Mission Manager
NASA Launch Services Program
Code VA-C
Kennedy Space Center, FL 32899
Phone: 321-867-5395
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Attachment 1
Launch Services Performance Ranges and Option Cost Figures $M

ELV Launch Service:

Performance Information:
Listed below is the performance from typical inclinations for most common launch sites. Any deviation from these inclinations will have an impact on available performance. For mission specific information utilize the point(s) of contact listed in this document.

Performance:

Table 1 Launch Vehicle Maximum Performance vs. Launch Site

Launch Site	Assumed Inclinations	Altitude Range	Max Performance
CCAFS	28.5 ˚- 51.6 ˚	200 km – 2000 km	450 kg
RTS	0 ˚- 90 ˚, SunSynch	200 km – 2000 km	465 kg
VAFB	70 ˚- 90 ˚, SunSynch	200 km – 1200 km	375 kg
WFF	38 ˚- 51.6 ˚	200 km – 1300 km	435 kg

Ground Rules:
- This performance does not include the effects of orbital debris compliance, which must be evaluated on a mission-specific basis. This could result in a significant performance impact for missions in which launch vehicle hardware remains in Earth orbit.
- Guidance reserves account for 3-sigma flight performance.
- Performance is for baseline configuration; non-standard, mission-unique hardware will require additional assessment.
- 38-inch (0.96-meter) separation system.
- Mass of entire separation system is book-kept on the launch vehicle side.
- Listed performance is for separated spacecraft mass.

Static Payload Envelope:

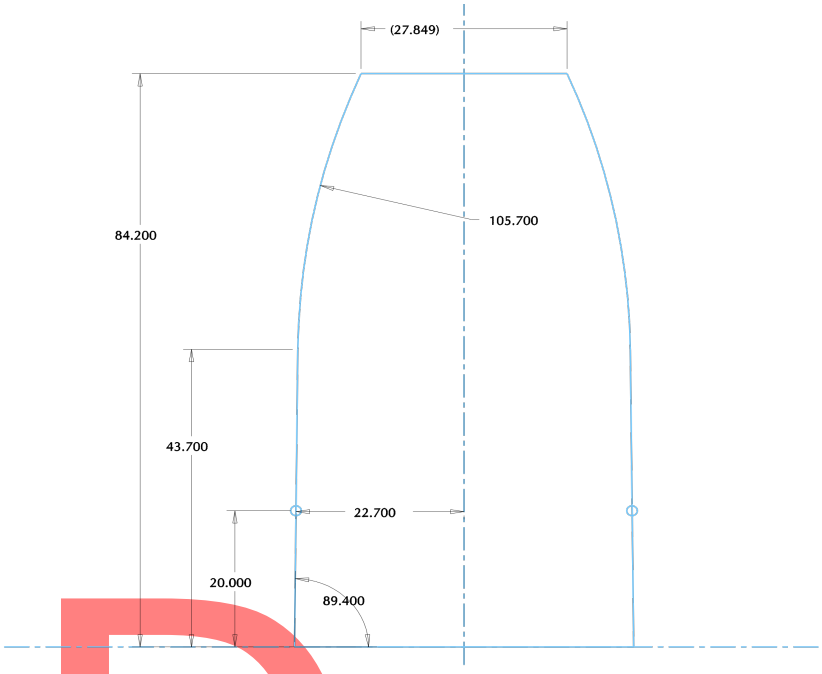

Figure 1
Fairing Envelope

Non-standard services and options that proposers must account for:

Additional Options	**Launch Date NLT**	**Total ($M)**
Mission Unique Adapter	12/16	1.0
Payload Isolation System*	12/16	1.5
Supplemental Propulsion**	12/16	proposer provided
Additional Options	**Launch Date NLT**	**Total ($M)**
Mission Unique Adapter	12/17	1.04
Payload Isolation System*	12/17	1.56
Supplemental Propulsion**	12/17	proposer provided
Additional Options	**Launch Date NLT**	**Total ($M)**
Mission Unique Adapter	12/18	1.08
Payload Isolation System*	12/18	1.63
Supplemental Propulsion**	12/18	proposer provided

* Bidders may choose to provide their own isolation system.
** Due to the multiple launch vehicle configurations within this launch vehicle class, supplemental propulsion systems must be defined and provided by the proposer to meet mission requirements. The system proposed and the spacecraft shall remain within the fairing envelopes provided.

These non-standard service prices are estimates and are not to be considered as commitments from the Launch Service Program. As part of a proposal's "cost to complete", these additional launch services are included in the evaluation of unencumbered cost reserve.

Attachment 2
AO Evaluation Form
Launch Services Program

Proposal Name:

Proposal #:

Evaluator POC:

Phone:

Email:

Launch Service Technical Evaluation:

Overall Assessment: - Given the ground rules in the AO, is the proposed launch vehicle (LV) concept feasible for this application? (Yes or No)
Comments:_____
_____

LV Performance: Area of concern (Yes or No)

Proposed LV configuration: _____

Proposed Launch Date: _____

Launch Period (MM/DD/YYYY to MM/DD/YYYY): _____/____/_____ to _____/____/_____

Launch Window (On any given day of the launch period Minutes:Seconds): _____ : _____

Orbit requirements: Apogee: _____ km Perigee: _____ km Inclination: _____deg.

High Energy requirements: C_3: _____ km^2/sec^2 DLA: _____deg RLA: _____deg

Proposed LV Performance: _____

Mass (including reserves) Dry Mass: _____ kg Wet Mass: _____ kg

Dry Mass Margin: _____ kg _____ %

Wet Mass Margin _____ kg _____ %

Formulas:
Mass Margin kg = LV Performance – S/C Mass (including reserves)

Mass Margin % = [(Mass Margin kg)/ S/C Mass (including reserves) kg] X 100

LV Performance Comments/issues/concerns:
_____
_____

Launch Service Cost Assessment: Area of concern (Yes or No)
Is there additional funding for any mission unique modifications/services? (Yes or No)

LV Integration: Area of concern (Yes or No)
Does the proposer have experience in LV integration? (Yes or No)

LV to Spacecraft Interface: Area of concern (Yes or No)

Proposed Payload Fairing (PLF) _____

Spacecraft (S/C) Dimensions: Radial:_____ m Height _____ m

Any intrusions outside of the PLF usable dynamic volume? (Yes or No)

Mechanical Interface:
Standard Adapter: _____ Custom Adaptor: _____

Electrical Interface:
Standard _____ Pin(s) Connector(s): (Yes or No)

Mission Unique requirements:

Instrument T-0 GN_2 Purge: (Yes or No)

T-0 S/C Battery Cooling: (Yes or No)

Planetary Protection Requirements: (Yes or No)

Contamination Control Requirements: PLF: (Yes or No) LV adapter: (Yes or No)

Cleanliness Level: _____ other: _____

Unique Facility Requirements: (Yes or No)

Pad: _____

S/C Processing Facility: _____

S/C Environmental Test Plans

Environmental Test Plan/Flow described: (Yes or No)

Test Levels provided: (Yes or No)

Test Schedule provided: (Yes or No)

Comments/issues/concerns: _____
_____

Spacecraft Schedule: Area of concern (Yes or No)

Adequate timing of: Launch Service Integration Start Time: (Yes or No)

S/C Environmental Test Program: (Yes or No)

Delivery of Verified S/C Model: (Yes or No)

S/C ship date: (Yes or No)

S/C to LV integrated Operations: (Yes or No)

Missions with Radiological material Area of concern (Yes or No)
List the Radiological Sources: _____

Are unique facilities required to store/process the Radiological Sources? (Yes or No)

Any LV modifications required for additional safety or Launch approval? (Yes or No)

END OF DOCUMENT